

FEDERAL RAILROAD ADMINISTRATION OFFICE OF RESEARCH AND DEVELOPMENT

Guidelines for Writing RESEARCH RESULTS Reports

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U.S. Department
of Transportation
Federal Railroad
Administration



INTRODUCTION to *Research Results*

The Federal Railroad Administration (FRA) periodically produces brief, plain-language reports, called Research Results, summarizing findings of research projects associated with railroad track and equipment safety. Designed for a nontechnical audience, the reports are four pages or approximately 1,250 words long and include photos or graphics.

Examples of Research Results can be viewed on the FRA web site at:

http://www.fra.dot.gov/rdv30/research_results/index.htm

The following guidelines have been created to assist those tasked with writing Research Results summary reports for submission to FRA for review, approval, and publication on FRA's Web site.

FORMAT

You will notice that Research Results has a new, updated look. In addition, formatting is now easier than ever. Leave it to us! Authors simply submit their reports as Word documents. Please include at least three types of artwork to illustrate the report (high-resolution photographs, renderings, charts, or tables) as well as short captions for each.

A graphics specialist at FRA will then format the Research Results into an attractive, easy-to-read, two-column layout and place the artwork in the report after the text has been edited.

However, if you prefer to format the Research Results prior to submission, please contact Michelle Cruz at (202) 493-6345 or michelle.cruz.CTR@dot.gov for layout details.

Helpful Hint:

Reports that run over four pages will be returned to the submitter to reduce the content. The author can check the number of words being used for any given section by highlighting the text, clicking on the Review tab in Microsoft Word Office 2007 and selecting the Word Count button. A pop-up window will show the number of words selected. This feature can be used as a guideline while composing.

Also, please note that any mention of contractors in the body of the document will be moved to the Acknowledgments section.



WRITING STYLE

For rules related to grammar, spelling, punctuation, and general form, FRA uses the U.S. Government Printing Office's (GPO) Style Manual as a guide. The latest edition (*GPO Style Manual 2008*) is available for purchase at GPO's Online Bookstore at <http://bookstore.gpo.gov/collections/gpo-style-manual.jsp>. It is also available on GPO's Web site free of charge at <http://www.gpoaccess.gov/stylemanual/browse.html>.

The writing style should be clear, effective, and straightforward. Avoid passive voice, long sentences, and jargon, in other words, "government-ese!" As stated in the new Plain Language Guidelines for government writing, readers of our reports should be able to:

- Find what they need;
- Understand what they find; and
- Use what they find to meet their needs.

Helpful Hint:

To see how a plain-language approach can improve the readability of a document, compare the examples below.

Before:

The following enumerated summary is intended only to highlight certain information contained elsewhere in this report.

After:

This summary highlights information contained in the report.

Before:

Longitudinal rail stress (LRS) is caused by environmental temperature changes due to solar radiation and air convection in conjunction with the boundary constraints on continuous welded rail.

After:

Longitudinal rail stress (LRS) is caused by the effects of heat and wind on constrained continuous welded rail.

For more before-and-after plain language examples, visit <http://www.plainlanguage.gov>.

CONTENT

The following elements are part of each Research Results report:

TITLE

SUMMARY

BACKGROUND

OBJECTIVES

METHODS

FINDINGS

ACKNOWLEDGMENTS

REFERENCES

CONTACT

KEYWORDS

DISCLAIMER (required)



Figure 1. Report Page Layout



TITLE

Research Results are nontechnical summaries of research findings, rather than full technical reports. Therefore, the title need not be the same as the upcoming technical report. Instead, it should be more like a headline, giving the reader a brief idea of what the summary will be about.

SUMMARY

Ideally, the Summary will begin much as a news story might, with a statement describing the conclusion of the research project followed by a synopsis of how the conclusion was reached. The Summary is typically composed of approximately 250-300 words giving an overall description of:

- the result of the research project
- who participated in it
- the reason the project was needed or initiated
- a few sentences about the method used
- brief restatement of conclusion reached

Below the summary section, there should be an illustration, graphic, or photo exemplifying an important point the research result describes. Don't forget to include both the artwork and the caption with your submission.

BACKGROUND

This section goes into greater detail describing how and why the research project came about (e.g., in response to several accidents or a mandate for safer conditions), as well as what agency initiated, funded, and participated in the project. Please include any references to previous related work (e.g., technical reports, previous Research Results, etc.). Estimate 250 words for this section.

OBJECTIVES

This section should contain a brief description of what information the researchers expected to discover at the end of project testing and inspection.



METHODS

Although the Methods section usually contains the most technical information in the report, it is important to remember that the audience for Research Results will range from members of Congress to interested laypersons reading the information on FRA's Web site. There is room for specifics and detail so long as the content remains easily readable for a wide audience. This section is usually up to 300 words long and includes images to illustrate points being made while describing the methods used in the study.

FINDINGS

The Findings section contains a description of the results discovered from performing the study. Being the main reason for the report, this section can run up to 400 words. Graphs or photographs illustrating results are also included and encouraged. Remember that if several graphics are used in the report, text may need to be reduced in order to fit all of the information into the four-page report.

ACKNOWLEDGMENTS

A listing of the persons and organizations participating in or contributing to the success of the research project are given credit here. This section is usually one paragraph in length but can extend to more if justified.

REFERENCES

References are listed in this section. If the references are numbered, a bullet style is preferred for clarity. The Technical Writers/Editors will ensure that the references appear in the appropriate style.



The example page layout shows a header with the U.S. Department of Transportation logo and the text "U.S. Department of Transportation Federal Railroad Administration" on the left, and "RR XX-XX | Month 2010" on the right. The main content area is divided into three columns. The left column contains placeholder text under the heading "FUTURE ACTION". The middle column contains placeholder text under the heading "ACKNOWLEDGEMENTS". The right column contains contact information under the heading "CONTACT", including "Your Name" and "Second Contact", both listing the Human Factors Program Manager at the Federal Railroad Administration. Below the contact information is a "KEYWORDS" section with placeholder text. At the bottom of the page is a "Notice and Disclaimer" section.

U.S. Department of Transportation
Federal Railroad Administration

RR XX-XX | Month 2010

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CONTACT

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1120 Vermont Avenue NW - Mail Stop 20
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(202) XXX-XXXX
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Washington, DC 20590
(202) XXX-XXXX
YourEmail@dot.gov

KEYWORDS

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Figure 2. Acknowledgments, contact and key words example page layout.

CONTACT

Include the name, address, phone number, and email address of the FRA Point of Contact listed, preferably the Program Manager submitting the Research Results report, and a second point of contact from any major collaborator involved in producing the report. The second point of contact is optional.

KEYWORDS

This section is meant to make the document more readily found on the Internet using search engines that look for recognizable text. Any keywords pertinent to the subject of the report can be listed in this section.

DISCLAIMER

A standard disclaimer statement is attached to the footer of the Research Results reports when they are formatted for approval and uploading to the FRA Web site.

The disclaimer reads:

Notice and Disclaimer: This document is disseminated under the sponsorship of the United States Department of Transportation in the interest of information exchange. Any opinions, findings and conclusions, or recommendations expressed in this material do not necessarily reflect the views or policies of the United States Government, nor does mention of trade names, commercial products, or organizations imply endorsement by the United States Government. The United States Government assumes no liability for the content or use of the material contained in this document.

REPORT SUBMITTAL PROCEDURE

When the author has completed the Research Results report, it is reviewed and approved by the contracting manager, who then forwards the report to the appropriate Program Manager at FRA's Office of Research and Development.

The Program Manager reviews the report and either approves it as submitted by the contractor or returns it with comments or changes regarding structure or major changes to content.

If the COTR finds the report to be acceptable, it is forwarded to an editor to ensure grammatical accuracy. The editor may communicate with the COTR regarding any parts of the report that



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appear vague or unclear. Minor corrections and issues regarding content and structure are corrected at this point.

Once editor and COTR agree, the report is ready for review and approval, then it is forwarded to the Graphics/Media Specialist to prepare the routing and approval package.

The Graphics/Media Specialist 1) prepares the approval package for routing to the appropriate Division Chief, Director, Associate Administrator for Railroad Policy and Development, and the Public Affairs Office representative; and 2) tracks the report through its approval and upon receiving the approved document, formats it to PDF, tags the document for Section 508 compliance, and uploads the report to the FRA Web site. Section 508 of the Rehabilitation Act requires that Federal agencies' electronic and information technology be accessible to people with disabilities. For information on Section 508, please visit <http://www.section508.gov/index.cfm?fuseAction=policies>.